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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,739	02/04/2004	Huagang Yu	MFL-003	4824

51414	7590	06/20/2007
GOODWIN PROCTER LLP PATENT ADMINISTRATOR EXCHANGE PLACE BOSTON, MA 02109-2881		

EXAMINER	
JONES, HUGH M	

ART UNIT	PAPER NUMBER
2128	

MAIL DATE	DELIVERY MODE
06/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/771,739	Applicant(s) YU ET AL.	
	Examiner Hugh Jones	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-84 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/13/04, 11/16/04,</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-84 of U. S. Application 10/771,739, filed on 2/4/2004 are pending. This action is in response to Applicant's submissions filed 8/13/2004, 11/16/2004, 2/15/2005, 8/1/2005.

Drawings

2. The drawings are objected to because figures 1-5, 17-23 are too dark. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Election/Restrictions

3. Restriction to one of the following inventions is required under 35 U.S.C.

121:

I: claims 1-69, 82-84, 80: The group is directed to an abstract simulation of fluid flow, classified in class 703, subclass 9. The group is not directed to "matching one or more pairs of subsurfaces", "identifying matched and unmatched subsurfaces" and hybrid solutions.

II claims 70-79, 81 The group is directed to abstract modeling of surfaces classified in class 703, subclass 2 (the independent claims recite "volume associated with a mold cavity..."; however, in the context of the claims, this amounts to an intended use. This is further shown by the preamble, "defining a hybrid solution domain" which refers to abstract mathematics, and the fact that the rest of the limitations can stand on their own in the absence of the recitation of "cavity", which is not required for the claim to function).

4. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as analysis of surfaces of a volume (assuming statutory

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requirements are met). Furthermore, subcombination I has separate utility such as determination of flow within a volume. See MPEP § 806.05(d).

5. Claim 28, 31 link inventions I and II. The restriction requirement for the linked inventions is **subject to** the nonallowance of the linking claim(s), claims 28, 31. Upon the indication of allowability of the linking claim(s), the restriction requirement as to the linked inventions **shall** be withdrawn and any claim(s) depending from or otherwise requiring all the limitations of the allowable linking claim(s) will be rejoined and fully examined for patentability in accordance with 37 CFR 1.104 **Claims that require all the limitations of an allowable linking claim** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

6. Applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, the allowable linking claim, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

7. The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise

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requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a).

Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

8. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

9. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art due to their recognized divergent subject matter (analysis of a surface and simulating flow within a volume), restriction for examination purposes as indicated is proper.

10. The burden is compounded by the extreme multiplicity of claims, very complex claim trees, and the extremely voluminous IDS.

11. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

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12. The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

13. Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

14. In the event Applicants traverse the restriction, they are requested to explain their reasoning in detail and to explain why a 112(2) *undo multiplicity* rejection would be unreasonable.

15. The Examiner has not contacted the Attorney of record since in cases where the restriction is deemed complex, the attorney or agent should be afforded the benefit of receiving the action for careful review and time to formulate a response. The Examiner deems this restriction/election complex. See MPEP 812.01.

16. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at

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least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

17. This Office action has an attached requirement for information under 37 CFR 1.105. A complete reply to this Office action must include a complete reply to the attached requirement for information. The time period for reply to the attached requirement coincides with the time period for reply to this Office action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be:

directed to: Dr. Hugh Jones telephone number (571) 272-3781,
Monday-Thursday 0830 to 0700 ET,

or

the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051 (for formal communications intended for entry)

or (703) 308-1396 (for informal or draft communications, please label *PROPOSED* or *DRAFT*).

Dr. Hugh Jones

Primary Patent Examiner

June 17, 2007

HUGH JONES Ph.D.
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100
[Signature]

1.105 REQUIREMENT FOR INFORMATION

1. Claims 1-84 of U. S. Application 10/771,739, filed on 2/4/2004 are pending. This action is in response to Applicant's submissions filed 8/13/2004, 11/16/2004, 2/15/2005, 8/1/2005.
2. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information (see items A-G) that the examiner has determined is reasonably necessary to the examination of this application:

A. Stipulate whether each and every individually cited reference listed on the IDS(s) submitted 8/13/2004, 11/16/2004, 2/15/2005, 8/1/2005 is material to the patentability of the instant application; the applicant may either *agree* or *disagree* for each cited reference.

Identify, for each and every citation listed on the IDS(s) submitted 8/13/2004, 11/16/2004, 2/15/2005, 8/1/2005, for which applicant *agrees* is material to the patentability:

- a. The differences between the claimed invention and those references cited therein,
 - b. How each reference is material to the patentability, based upon the technical [REDACTED] knowledge of the Applicant, of the claimed invention,
 - c. Provide how the instant claimed invention is an improvement over each and every reference that is listed in the IDS submission(s) dated 8/13/2004, 11/16/2004, 2/15/2005, 8/1/2005.
- B. Provide a copy of any non-patent literature, published applications, or patent (US or Foreign) *used in drafting the instant application, whether or not cited* in the IDS submission(s) dated 8/13/2004, 11/16/2004, 2/15/2005, 8/1/2005.
- C. State the specific improvements of the subject matter in the claims over the disclosed prior art that is listed in the IDS submission(s) dated 8/13/2004, 11/16/2004, 2/15/2005, 8/1/2005 and indicate the specific elements in the claimed subject matter that provide those improvements. For those claims

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expressed as means or steps plus function, please provide the specific page and line numbers within the disclosure which describe the claimed structure and acts.

D. Provide a copy of any non-patent literature, published application, or patent (US or Foreign) that was *used in the inventive process to accomplish the applicant's inventive results*.

E. Provide the date of first use of the claimed invention, known by any of the inventors or Applicant, at the time the application was filed *notwithstanding* the date of use.

F. Trademark(s) or Copyright(s) for the product(s) incorporating the instant claimed invention.

G. In order to constitute a complete response Applicant is required to include stipulations for each and every reference cited in the IDS submission(s) dated as well as each and every IDS submission thereafter, as delineated in requirement A.

3. The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of this requirement under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97.

4. The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

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5. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be:

directed to: Dr. Hugh Jones telephone number (571) 272-3781,

Monday-Thursday 0830 to 0700 ET,

or

the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

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Dr. Hugh Jones

Primary Patent Examiner

June 17, 2007


HUGH JONES
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100